

# Summary

**District heating sector** is one of the most important energy sector in Lithuania operation of which is closely related to other energy sectors such as electricity, natural gas, oil products, renewable energy sources.

District heating systems (DHS) are used in all Lithuanian cities and most settlements. Individual heating of the buildings is used in those locations where DHS is not acceptable from economic point of view. At present the DHS and individual heating covers about 50 percent of heated area in Lithuania. Similar proportions are registered in most neighboring countries where climatic conditions are similar to those in Lithuania and the buildings are heated 6-7 months per year.

Rich experience is accumulated with the targeted shaping of the state energy politics in the neighboring countries, especially Scandinavian countries with the developed district heating sector such as Finland, Denmark, Sweden as well as Germany, Austria, etc., which, in contrast with Lithuania and other Baltic and Eastern and Central European countries, were developing in market economy conditions. Such conditions allowed for this sector to take an important place in all energy sector and to use benefits of this technology – to widen the use of biofuel, municipal waste, residual heat of industrial enterprises and other local resources and at the same time to reduce the use of imported fossil fuel for heat production and to avoid the major part of the carbon dioxide (CO<sub>2</sub>) emissions.

Main priorities of Lithuanian energy policy based on the experience of the neighboring countries and directives of the European Union – **environmental protection, security and reliability of energy supply and availability of district heating services to all users.**

It is necessary to use widely the biofuel in the DHS sector (logging and timber waste, straw, energy wood plantations, perennial grasses, municipal waste, residual heat of industrial enterprises and other local resources) for the heat production, unused amounts of which are very big. According to the data of 2009, the use of biofuel for the heat production amounted to only about 19 percent, while an unused potential including municipal waste still amounts to about 66 percent of the total consumed fuel.

Stressing on above mentioned the DHS sector of Lithuania should reach the following goals:

– *to increase the share of local and renewable energy sources in the heat production, including the proportion of the municipal waste to 70 percent until the year 2015, and to 85 percent until the year 2020, of the total consumed fuel. To reach this goal it is necessary to additionally install about 1,500 MW of general heat and electricity power, the investment value of which would amount to about 438 mio. of US dollars.*

– *to produce 6 percent of the total electric energy produced in the country by the cogenerative power plants.*

Such measures will ensure for Lithuania higher **energy security, will reduce dependency of the country on imported fossil fuel, will ensure economic benefit, will create new work places in the country, will reduce atmosphere pollution, will improve the export/import balance of the country, will contribute to coherent development of the country's regions, and will allow to stabilize the heat prices.**

The second and greatest country's problem is low efficiency and much heat using residential and other buildings, which are the main consumers of the district heating services. Older residential and other buildings which were built 20 and more years ago use 3 to 4 times more heat (about 200 kWh/m<sup>2</sup>/year) as compared with the new construction buildings (about 50 kWh/m<sup>2</sup>/year and less).

In order to resolve this problem – to renovate the buildings stock the Government prepared a special program intended to significantly reduce **heat consumption by the buildings, fuel consumption for the heat production, atmosphere pollution, and payments of the heat consumers for the household heating.**